Claims

1. An air turbine apparatus, comprising:

a housing defining an expansion chamber;

an inlet coupled to the housing, the inlet having a diameter less than the expansion chamber;

an outlet coupled to the housing;

a tube proximate to the inlet to directly receive incoming gases, the tube including

an induction chamber extending longitudinally therethrough and aligned with the inlet and outlet,

a proximal end disposed adjacent to the inlet to directly receive incoming gases,

a plurality of perforations formed therein, and

a distal end coupled to the outlet,

wherein the tube defines first and second air flow paths, the first air flow path being straight and passing through the inlet, through the induction chamber, and through the outlet, the second air flow path passing through the perforations and then combining with the first air flow path.

2. The apparatus of claim 1, further comprising an inlet tube coupled to the housing and aligned with the inlet.

3. The apparatus of claim 2, wherein the inlet tube includes a convolution.

4. The apparatus of claim 1, further comprising an outlet tube coupled to the housing and aligned with the outlet.

5. The apparatus of claim 4, further wherein the outlet tube includes a convolution.

6. The apparatus of claim 1, wherein the perforations extend inwardly into the tube.

7. The apparatus of claim 1, wherein the tube maintains approximately the same diameter along its longitudinal length.

8. The apparatus of claim 1, wherein the diameter of the tube is approximately the same as the inlet and outlet.

9. An air turbine apparatus, comprising:

a housing defining an expansion chamber;

an inlet coupled to the housing, the inlet having a diameter less than the expansion chamber;

an outlet coupled to the housing;

a tube proximate to the inlet to directly receive incoming gases, the tube including

an induction chamber extending longitudinally therethrough and aligned with the inlet and outlet,

a proximal end disposed adjacent to the inlet to directly receive incoming gases,

a converging portion,

a body, coupled to the converging portion, the body maintaining approximately the same diameter along its length,

a plurality of perforations formed within the body of the tube, and

a distal end coupled to the outlet,

wherein the tube defines first and second air flow paths, the first air flow path being straight and passing through the inlet, through the induction chamber, and

through the outlet, the second air flow path passing through the perforations and then combining with the first air flow path.

10. The apparatus of claim 9, further comprising an inlet tube coupled to the housing and aligned with the inlet.

11. The apparatus of claim 10, wherein the inlet tube includes a convolution.

12. The apparatus of claim 9, further comprising an outlet tube coupled to the housing and aligned with the outlet.

13. The apparatus of claim 12, further wherein the outlet tube includes a convolution.

14. The apparatus of claim 9, wherein the perforations extend inwardly into the tube.

15. The apparatus of claim 9, wherein the diameter of the body of the tube is approximately the same as the inlet and outlet.